Musa acuminata × Mycospharella musicola: Preliminary results of RNA-Seq analysis

Edson perito Armorim
192 million fragments (reads)

- Grande Naine = 88 million
- Caipira = 103 million

~80 million contigs

- Grande Naine = 36,601,282
- Caipira = 43,212,295

~6 million singletons

- Grande Naine = 2,161,120
- Caipira = 3,763,555

~9.971 differentially expressed sequences

- GN = 4,385
- Caipira = 5,496
<table>
<thead>
<tr>
<th>Searching items</th>
<th>Grande Naine</th>
<th>Caipira</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of sequences examined</td>
<td>44106</td>
<td>47545</td>
</tr>
<tr>
<td>Total size of examined sequences (bp)</td>
<td>39000923</td>
<td>46527511</td>
</tr>
<tr>
<td>Total number of identified SSRs</td>
<td>7060</td>
<td>9112</td>
</tr>
<tr>
<td>Number of SSR containing sequences</td>
<td>5863</td>
<td>7339</td>
</tr>
<tr>
<td>Number of sequences containing more than 1 SSR</td>
<td>973</td>
<td>1383</td>
</tr>
<tr>
<td>Number of SSRs present in compound formation</td>
<td>475</td>
<td>616</td>
</tr>
</tbody>
</table>
Differentially expressed genes

RNA-Seq Libraries

Contigs

> GSMUA_AchrUn_randomT23380_001 Putative protein kinase domain containing protein,
> GSMUA_Achr1T09200_001 Putative Wall-associated receptor kinase 2
  > GSMUA_Achr4T04380_001 MLO-like protein 6
> GSMUA_Achr9T28030_001 Putative Disease resistance protein RPM1
  > GSMUA_Achr4T18230_001 Putative Probable LRR receptor-like
> GSMUA_Achr3T17410_001 Putative Probable leucine-rich repeat receptor-like protein kinase
  > GSMUA_Achr7T21450_001 Putative Wall-associated receptor kinase 5
  > GSMUA_Achr2T10870_001 Putative Wall-associated receptor kinase 3
> GSMUA_Achr2T16490_001 Putative Probable LRR receptor-like serine/threonine-protein kinase
  > GSMUA_Achr9T28030_001 Putative Disease resistance protein RPM1
> GSMUA_AchrUn_randomT03450_001 Putative LRR receptor-like serine/threonine-protein kinase ERECTA...
Next steps

- Finish bioinformatics analysis;
- Validate M. musicola resistance genes;
- Validate SNP and SSR markers;
- Create a genbank at Embrapa for M. musicola resistance genes and molecular markers;
- Use in cisgenics;
- MAS studies.
Thank you

E-mail: edson.amorim@embrapa.br
Fone: +55 (75) 33128058
Skype: edson.perito.amorim